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ABSTRACT

This conference report summarizes the review of research on reading methods and materials done for Project 3 of the Targeted Research and Development Program on Reading. Critical evaluation of 948 research studies was made using the Gephart model. Of these, 244 studies were judged acceptable. It was concluded that most teachers combined and adapted many methods and much equipment to their particular needs. The existence of so many methods and materials for teaching beginning reading, based on the assumption that if beginning reading instruction is successful all subsequent instruction will also be successful, led investigators to conclude that a change of focus is needed and that more studies need to be done on the effectiveness of specific methods with various groups of older students. It was also concluded (1) that the rush to produce and acquire new materials should be replaced by more careful field tests of new materials before sale and more insistence on effectiveness before purchase; (2) that research on effectiveness of materials and methods should include adequate data on population studied, materials and methods used, and other information which can benefit teachers; and (3) that the present state of research leaves teachers with no evidence around which to design effective instructional methods. References are included. (MS)

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Results of the Survey of the Literature on Methods and Materials in Reading[1]

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One of the three objectives of Project 3 of the Targeted Right to Read Grants was to answer the following questions concerning the use frequency and use distribution of instructional methods, approaches, procedures, materials and equipment for reading instruction:

a. What methods, materials, approaches, equipment and procedures are used to teach reading in the U.S. and to what extent?

b. What methods of reading instruction are built on essentially different pools of basic knowledge?

c. What relationships between methods of reading instruction and reading achievement of the various subgroups in the population can be shown?

In addition, the research evidence on methods and materials used in teaching reading was critically evaluated.

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[1]This paper is based on Chapter 4 by Martha J. Maxwell and George Temp in Corder, Reginald The Information Base for Reading---A Critical Review of the Information Base for Current Assumptions Regarding the Status of Instruction and Achievement in Reading in the United States. Final Report Project #0-9031, Grant # OEC-0-70-4722 (508) pp. 61-137

Procedure:

In order to accomplish the objectives of this study, it was necessary to locate all existing literature that might be relevant and develop a procedure for selecting, systematically reviewing and analyzing that literature. A committee of experts from universities representing different fields in reading and related disciplines screened and selected specific studies, surveys, and other documents from the vast literature in the field and advised on all phases of the project. Each item selected was carefully read and rated by one or more readers.[2] In addition to rating the item on the specific charges of the project, readers also rated its research quality based on Gephart's criteria (1970)---the representativeness of the sample studied, the adequacy of the description of the treatment used, the validity and reliability of the measurements and the appropriateness of the data analysis procedures. Of the tens of thousands of items screened, 948 were selected by the committee as meriting evaluation for the section on materials and methods. Of these, a total of 244 separate articles were judged by the readers as acceptable (i.e., of high or middle quality.) Eighty articles dealing with methods and 33 on materials were ranked "high" by the evaluators.

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[2]A complete description of the procedures and rating methods used can be found in Chapter 1 of the complete project report (Corder, 1971)

Results:

Most of the research studies on reading methods involved the beginning reading stages. 161 of the articles surviving the Gephart criteria were on Grades 1-3, 38 on grades 4-6, 25 on junior high, 2 on senior high, 10 on young adults (college) and 5 on adults. Furthermore, with the exception of "programmed instruction" and "individualized instruction," it is rare that the term, "methods of teaching reading" is used above grade 3.

The most typical finding reported in the studies reviewed was "no statistically significant differences were found between experimental and control groups." This statement appeared with monotonous regularity. In the studies which reported significant gains at the end of the experimental period, these inevitably disappeared in follow-up studies, and, in some cases, controls exceeded experimental subjects in subsequent learning. To be sure there were significant differences in some variables in a few studies. At the present time, we lack even a "web of partial evidence" from which teachers can design effective methods for teaching reading.

What the project did reveal were the kinds of problems researchers in reading methods face and the assumptions underlying their efforts.

Definition of Reading Methods:

Investigators tended to label rather than to give operational definitions of reading methods. The classification system developed by Chall (1967) was used in grouping methods studies:

1 - Meaning emphasis

2 - Code emphasis
    a. synthetic
    b. analytic

3 - Linguistics

4 - Modified alphabet

5 - Responsive environment

6 - Programmed learning

7 - Individualized instruction

8 - Language experience

9 - Eclectic (author's own or other)

In evaluating the articles, books and other source materials, it was usually possible to fit the author's label of method into one of the above categories, although some researchers only described the materials used in the study. Few studies explicitly described teaching methods and almost none gave information concerning the sequencing of the exact elements in the instructional plan, the type and amount of practice trials for each aspect of the presentation, the kinds of reinforcement used by teachers, nor the total time devoted to the procedure under study. Most of the research merely labeled the "method" used without operationally defining it. In many cases, quite different practices were labeled with the same term (e.g., "individualized instruction" was used to describe programs where students freely chose their own books to read as well as programs where students followed a rigidly prescribed programmed learning instruction sequence; "responsive environment" referred both to the "Talking Typewriter" and to sundry

variations on the British Infant School model.) The term, "method" also was applied to quite different phenomena: e.g., classroom organization, overall nature of the instruction, materials used and even to the basic "approach" or philosophy involved. In almost all of the methods studies, materials are inextricably linked with method. For example, in the i.t.a. studies, it is impossible to determine whether the differences reported were due to learning to read in the new alphabet or to differences in the materials or classroom strategies since students in i.t.a. classes typically used the Early to Read Series and controls used, "basal readers." (Warburton and Southgate, 1969)

Studies using "linguistic methods" showed even greater variability in terms of materials used, often appearing indistinguishable from "phonics-based" programs. Inevitably, control groups were taught with the "traditional basal reader" approach. In most studies, the specific basal reader used was not identified nor was descriptive information given as to how the teacher used or supplemented the basal reader materials.

Not only did labels used to describe reading methods have quite different meanings depending on the author, but more sophisticated attempts to classify different reading approaches compounded the confusion. For example, the Bliesmer and Yarborough study (1965) which compared 10 reading methods has been widely cited as demonstrating the superiority of the synthetic approach. A careful inspection of the data they cite reveals the following:

1. The "individualized approach" which they classify as analytic differs significantly from each of the other analytic approaches on at least one comparison.

2. The "individualized approach" classified as analytic did not differ significantly on any comparison from the "programmed learning approach" which they classified as synthetic.

3. On 17 out of 50 comparisons, the synthetic methods differed significantly from each other.[3]

Jean Chall in her book Learning to Read: The Great Debate takes great pains to illustrate that selections from phonics-based readers do not differ from meaning-emphasis materials on meaningfulness, but then proceeds to classify them in different categories. In her analysis of the research she undertakes a deep and scientifically rigorous look at the existing research, but finds herself faced with the problem shared by all synthesizers---i.e., if research quality standards are too high, there is nothing left to summarize. Chall resolves the dilemma by accepting studies with recognized major defects on the ground that they are "as good as most studies of their kind." Though she claims that her conclusions stem from her theoretical analysis of the probable course of reading skill, not from "head-counting results," her study still leaves one with the impression that one can merely examine the research literature no matter how inadequate it is and conclusions will emerge.

Authors of textbooks, professors of reading, and investigators who engage in research rituals assume that reading methods exist and that they differ. We have found no evidence to support either assumption.

What the teacher does with materials and lesson plans when he or she closes the classroom door has rarely been reported in the reading research literature. That teachers ignore the controversy on reading

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[3]A complete description of this analysis by George Temp appears on pp. 128-132 in the final report of the project. (Corder, 1971)

methods is suggested from survey data. For example, in the New England Educational Assessment Project (1969), 94% of the first grade teachers reported using basal reader materials, but 94% reported they also used intensive phonics materials. The majority of the teachers said they also used supplementary basal materials, teacher-made exercises, tape-recorders, etc., to teach reading. Ninety percent of the first grade teachers put some or much emphasis on configuration clues (whole word approach), ninety-eight percent stressed phonics (letter sounds) and the majority of the group also claimed they stressed linguistics (word patterns) and structural analysis. It would appear that teachers use a wide variety of materials and approaches in teaching reading.

Other Assumptions Underlying Research in Beginning Reading:

Implicit in much of the research in beginning reading is the assumption that if a child is started out right at the beginning stages, the advantages he gains over other students in reading achievement will persist permanently. Follow-up studies typically involve periodically administering reading tests in subsequent years without considering the intervening learning experiences or the impact of other factors on reading development. Longitudinal studies tracing the child's reading development and educational experiences are rare indeed. If this research direction continues, one can confidently predict that soon studies will be reported where the achievement of students taught beginning reading in i.t.a. is compared with controls on College Board Examination Scores adminstered twelve years later.

Another research assumption is that it is good to get children

reading early and the faster they learn, the better. This value judgement has no empirical basis and runs counter to our knowledge of the differential patterns of child development and motivational stages in cognitive, emotional and physical areas.

Implicit also in the development of "methods" is the view that if the initial stages of learning to read can be made easier by changing the code, controlling the sequence of presentation of letters of the alphabet, teaching phonics rules or controlling the vocabulary, etc., the child will learn to read more easily and quickly. With the sole exception of i.t.a. research, none of the other investigators have mentioned the problem of transfer, much less studied it. These attempts may oversimplify the process of reading to a degree that children may not be adequately prepared to make the transition to "real reading involving as it does irregular and polysyllabic words, inconsistent spelling patterns and pronunciation, and complex syntax. It is quite possible that simplifying the beginning reading stimuli may indeed result in negative transfer making it more difficult for some children to make the transition to normal written material. Systematic research on transfer is sorely needed.

Underlying most of the research and written materials on methods, despite protestation to the contrary, is the undisguised hope that if only we are careful and scientific enough we will eventually discover the one method of teaching reading that will work with all children.

Materials:

There are well over 10,000 separate products to teach reading on

the market today including books, filmstrips, multi-level kits, games, etc. This information explosion poses a dilemma for the reading educator who is responsible for making decisions about which materials to use. P. Kenneth Komoski, President of the Educational Products Information Exchange Institute, a consumer's union for school systems and educators estimates that less than ten percent of the educational products on the market today have been field tested, and far fewer have been subject to more rigorous learner verification testing. (Komoski, 1971) Current products for teaching reading being developed by the various regional educational laboratories are being rigorously tested and revised. For example, the First Year Communications Skills Program developed by the Southwest Regional Laboratory (SWRL) has been learner-verified by testing and used with more than 30,000 children in twelve states over a four-year period. The Wisconsin Design for Reading Skills Development (Otto and Askov, 1970) represents another approach in which research has been used to develop interrelated components of basic skills for grades one through six with the goal of aiding schools to make more efficient use of available published materials rather than developing new materials. In evaluating these as well as other systems approaches to the teaching of reading, it is important to recognize that they are designed to <u>supplement</u> not <u>supplant</u> the regular school reading program.

A comprehensive list of materials "purported to be distinctly phonics programs" was compiled by the Educational Products Information Exchange and published as "Product Information Supplement No. 7: Text-based Phonics Programs," in April, 1969. Over forty percent of the 189

titles listed were reported to have undergone some sort of field testing.

Few materials designed for high school and college level students have been field tested. An exception is the McGraw-Hill Basic Skills System which includes programmed books for learning a number of reading and study skills and is designed for high school and college students.

Komoski (1971) fears that the proliferation of educational materials has lead to providing schools and teachers with an increasing number of trivial options rather than the high quality alternatives they need. The plethora of educational materials is symptomatic of our technological age which creates a demand for options in all purchases as well as a need for immediate acquisition of products and information. Teachers, like other consumers, have been conditioned to expect new materials and methods every year and to look to educational technology to help solve classroom problems. (An illustration of this attitude was the incident at the 1970 National Reading Conference when a teacher rose to protest the government's spending money on long-term research when what she needed was something to use in the classroom "Monday morning.")

Field-testing new materials is an expensive proposition. Publishers are unlikely to underwrite this additional production cost voluntarily, particularly since educators do not demand evidence that the product they are purchasing has been tested and, in fact, generally ignore field testing data when they are available.

Even were all materials sold to schools required to have demonstrated learner effectiveness on a nation-wide sample, this would not guarantee that the materials would work equally well with a particular sub-group

population in a local school district. School systems need help in establishing criteria for their local needs and in developing inexpensive pilot-testing programs so that materials can be tested on local populations.

Use of Materials in Teaching Reading

We found no recently published, large-scale national surveys on the use and distribution of reading materials in the schools. The local and regional surveys and limited national surveys that we reviewed uncovered no evidence that would refute the findings of earlier surveys that Basal readers are used in almost all elementary classrooms in grades K-6. (Austin and Morrison, 1963, Barton and Wilder, 1964.) However, as mentioned above, regional surveys suggest that most elementary teachers are supplementing basal readers with other materials such as intensive phonics workbooks, teacher built materials, and audio-visual aids--- especially tape recorders. Despite the criticism of basal readers expressed by reading experts and the public press, there was no evidence that classroom teachers are rebelling against them nor using them less frequently.

Regional surveys of high school reading programs suggest that machines, multi-level kits, and workbooks are still the most frequently used materials.

The language-experience approach, i.t.a., and individualized instruction, although described frequently in educational publications, actually involve only a very small percentage of classrooms as revealed by the surveys. Computer assisted instruction in reading, perhaps because of its expense, has made few inroads in public schools and is generally limited to a few research projects.

The Knowledge Base of Methods and Materials in Reading:

Almost all of the so called methods of teaching reading reported in current literature, including i.t.a., have their roots or counterparts in practices described in the professional literature of the nineteenth century. Proponents of current methods and approaches have selectively drawn evidence from the research literature in psychology and linguistics to support their positions. Usually they focus their rationalizations on one particular branch of psychology and ignore or underplay findings from other areas. For example, the rationale for individualized instruction, responsive environment, language experience approaches have in common an assumption that children can learn to read in a less structured situation then the normal classroom provides. They cite psychological evidence on motivation, differential growth and development patterns and studies on individual differences to support their positions. Analytic and synthetic method proponents cite studies from visual perception and learning to support their positions, but ignore findings which do not support their theory.

Inter-relationships Between Methods and Materials, Characteristics of the Learner and Reading Achievement.

The research literature dealing with the relationship between characteristics of various sub-populations and materials and methods used in teaching reading revealed little information. Most studies failed to specify the obvious descripters of the population studied---sex, intelligence, ethnicity, or socio-economic background. Only two studies on American Indians survived the Gephart screening system and

only four dealing with Asian-American students. In one of the "Indian" studies, the Indian population was comprised of two Indian children.

Most of the studies which specified ethnicity concerned Black, low SES students in ghetto schools. No studies meeting our research criteria were found on middle-class Black children nor on high SES White children with reading difficulties.

If further research is conducted on questions involving school procedures and materials for special groups, researchers should be required to provide adequate data on their populations including sex, ethnicity, ability, grade level, SES background as well as other relevant reading characteristics including physical, emotional and perceptual difficulties.

It may appear to many that the review of over 900 articles on reading methods and materials selected as pertinent to the interests and concerns of this project should yield more information. That it did not was a constant concern to those who put extensive, time-consuming and detailed effort into completing the project. The implications of this study are crystal clear. It is time to refocus the research effort in reading, to raise the standards of designing, conducting and reporting of reading research so that these efforts are compatible with standards of research investigation and reporting that scientists have accepted in developing and communicating their findings. Incomplete, small and partial studies where only the experimenter using his clinical insights can interpret the results may be useful in shaping opinion and developing hypotheses for future research. However, one cannot trust, much less apply information developed from studies that are incomplete, fail to

control for significant variables, are based on small populations, do not adequately describe characteristics of the sample, do not specify the conditions under which the study was conducted, fail to specify operational definitions of the variables used (whether they be teacher characteristics, pupil characteristics, methods or materials) and state conclusions that are not supported by the data.

If reading research is to improve, then it is the responsibility of editors of professional journals and other publications, individuals responsible for the awarding of grants and the research consumers to demand more rigorous standards. Researchers must recognize that sophisticated statistical treatments, and elaborate experimental designs will not yield answers to poorly stated questions nor clarify fuzzy concepts.

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